measures the channel response to the calibration signal, and compares the channel response to a target response at the first, seventh and eleventh harmonic frequencies. If the error signals, which represent the difference between the target and measured signals, are within an allowable limit, then the channel is considered calibrated. If the error signals are greater than the allowable limit, a control processor sends control signals to calibrate the channel. The procedure is repeated until the channel is calibrated.

However, Anderson fails to teach or suggest a bandedge filter, connected to a pre-equalizer, for extracting a bandedge signal from a broadband signal. Additionally, Anderson does not teach or suggest a bandedge signal processor, connected to a bandedge filter, for generating a control signal in response to the bandedge signal. In contrast to the teachings of Anderson, applicant's claim 1 specifically recites:

> "Apparatus for equalizing the bandedges of a broadband signal comprising:
>
> a pre-equalizer for adjusting the amplitudes of the bandedges of said broadband signal in response to a control signal;
>
> a bandedge filter, connected to said pre-equalizer, for extracting a bandedge signal from said broadband signal; and
>
> a bandedge signal processor, connected to said bandedge filter, for generating said control signal in response to said bandedge signal."
>
> (emphasis added).

With respect to claim 1, the Examiner conceded that Anderson does not expressly state a bandedge filter as disclosed by applicant. However, the Examiner nonetheless noted that Anderson discloses a means for extracting the values of the bandedges. Applicant respectfully disagrees that Anderson discloses such an extraction means.

The Examiner cites to Figure 5, item 58 and column 8, lines 18-62 as evidence of a means for extracting the values of the bandedges. Anderson includes a summing and roll-off amplifier (item 58) for summing the outputs of low and high band equalizers, and rolling off the high frequency response at a

frequency that is a function of the tape speed (column 8, lines 23-28). The summing and rolling off functions, performed by the summing and roll-off amplifier, does not teach or suggest a means for extracting the values of the bandedges.

In column 8, lines 18-62, Anderson generally discusses the control mechanism in the high-band gain and equalizer circuits. The high-band gain circuit controls the frequency response at frequency f_4, while the high-band equalizer circuit controls the frequency response at frequencies f_3 and f_2. Specifically, the high-band gain and equalizer circuits include controllable resistors that are adjusted in response to control circuits (Figure 5, items 54, 56, 64, 66, 90, 92, 111, 112). The resistors are adjusted to provide a complementary frequency response for the record/reproduce channel (Figure 1). As with the summing and roll-off amplifier, the resistance and frequency adjustment in the high band gain and equalizer circuits does not teach or suggest a means for extracting a bandedge signal.

The Examiner also noted that Anderson discloses a signal processor for generating control signals in response to the bandedge signal. Applicant respectfully disagrees.

The Examiner cites to column 4, lines 1-23 and column 8, lines 44-49 as evidence of a signal processor for generating control signals in response to the bandedge signal. Anderson includes a control processor for potentially generating control values <u>in response to a set of error values</u> (column 4, lines 1-23). Specifically, if the sets of error values are not within allowable limits, then the control processor generates control values to a reproduce amplifier circuit. However, if the sets of error values are within allowable limits, the calibration routine is terminated and no control values are generated. As the control processor only operates when the error values are not within allowable limits, Anderson fails to teach or suggest generating a control signal <u>in response to a bandedge signal</u>.

Additionally, the control processor is not connected to a bandedge filter, as the Examiner conceded the absence of such a bandedge filter. In Anderson, the

control processor is disclosed as providing a control signal for the adjusting the frequency response associated with a frequency, f_4, that is 0.6 of the bandedge frequency (column 8, lines 44-46). Specifically, the control circuit may adjust the frequency response associated with selected mid and high band frequencies f_3, f_4 and f_2 (Figure 6, items 92, 66, 112), which are the fundamental frequency, the seventh harmonic (frequency) and the eleventh harmonic (frequency) respectfully. If the eleventh harmonic is chosen as the high bandedge frequency, then the seventh harmonic is seven-eleventh or approximately 0.6 of the (high) bandedge frequency. In this case, the fundamental and seventh harmonic does not necessarily correspond to the low bandedge frequency. As such, adjusting the frequency response associated with the fundamental, seventh harmonic and eleventh harmonic frequencies fails to teach or suggest generating a control signal in response to a bandedge signal.

Therefore, Anderson fails to disclose an apparatus for extracting a bandedge signal from said broadband signal. Additionally, Anderson fails to disclose a bandedge signal processor, connected to said bandedge filter, for generating said control signal in response to said bandedge signal. As such, applicant submits that claim 1 fully satisfies the requirements of 35 U.S.C. § 103 and is patentable thereunder.

As claim 12 recites similar limitations to those of claim 1, the foregoing response also applies to claim 12. Therefore, the applicant submits that claims 1 and 12, as they now stand, fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

Furthermore, dependent claims 9-10 and 15-16 depend, either directly or indirectly, from respective claims 1 and 12 and recite additional features therefor. As such and for the exact same reasons set forth above, the applicant submits that none of these claims is obvious with respect to the teachings of Anderson. Therefore, the applicant submits that all these dependent claims also fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

Conclusion

Thus, the applicant submits that none of the claims, presently in the application, is obvious under the provisions of 35 U.S.C. § 103. Consequently, the applicant believes that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Raymond R. Moser Jr., Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

11-22-99
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